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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,443	07/01/2005	Antonio Luiz Duarte Braganca	0315-0158PUS1	7833

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EXAMINER	
MCDONOUGH, JAMES E	
ART UNIT	PAPER NUMBER
1755	

NOTIFICATION DATE	DELIVERY MODE
08/08/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/518,443	BRAGANCA ET AL.	
	Examiner	Art Unit	
	James E. McDonough	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-7,9,11-15,17-23,25-35 and 37-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-7, 9, 11-15, 17-23, 25-35, and 37-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Original Rejections

Claims 2-7, 9, 11-15, 17-23, 25-35, and 37-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciani et al., EP 0 480 435 (hereafter referred to as Luciani I). Luciani I discloses the invention substantially as claimed (p. 2, 1. 25-44; examples). Luciani I lacks disclosure of the thermal treatment of step (g) and the washing step (h) as well as various preferred embodiments of the present dependent claims. However, washing is a conventional trivial step in order to remove excess reagents, and the "thermal treatment" is so broad as to read on merely letting a composition sit at room temperature. It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Luciani I with a reasonable expectation of obtaining a highly-useful method of making a catalyst component with the expected benefit of the catalyst to be usable in gas phase polymerization processes.

New claim 48 stands rejected as it is a combination of previous claims that were rejected under this reference.

New claims 49-51 are rejected as being disclosed in the reference. The reference discloses activating silica via heat treatment at 100-650°C for 1-20 hours (page 3, paragraph 2), a solid catalyst component used in the polymerization of ethylene (page 2, paragraph 3), and conducting the polymerization in the presence of activated particulate silica.

New claims 52-61 are rejected as being disclosed in the reference.

Claims 2-7, 9, 11-15, 17-23, 25-35, and 37-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciani et al., EP 0 522 651 (hereafter referred to as Luciani II). Luciani II discloses the invention substantially as claimed (p. 2, 1. 27 to p. 3, 1. 35; examples). Luciani II lacks disclosure of the thermal treatment of step (g) and the washing step (h) as well as various preferred embodiments of the present dependent claims. However, washing is a conventional trivial step in order to remove excess reagents, and the "thermal treatment" is so broad as to read on merely letting a composition sit at room temperature. It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Luciani II with a reasonable expectation of obtaining a highly-useful method of making a catalyst component with the expected benefit of the catalyst to be usable in gas phase polymerization processes.

New claim 48 stands rejected as it is a combination of previous claims that were rejected under this reference.

New claims 50-51 are rejected as being disclosed in the reference. The reference teaches solid catalyst component of activated particulate silica for the (co)polymerization of ethylene (abstract).

New claims 52-61 are rejected as being disclosed in the reference.

Claims 2-7, 9, 11-15, 17-23, 25-35, and 37-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 91108239 (hereafter referred to as Neste). Neste discloses the invention substantially as claimed (p. 7, 1. 8-16; examples 1-13). Neste lacks disclosure of the thermal treatment and washing steps of (g) and (h)

respectively. However, such steps are conventional in chemical synthesis. It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosure of Neste with a reasonable expectation of obtaining a highly-useful method of making a catalyst component with the expected benefit of the catalyst to be usable in gas phase polymerization processes.

New claim 48 stands rejected as it is a combination of previous claims that were rejected under this reference.

New claims 49-51 are rejected as being disclosed in the reference. The reference teaches activation of silica to remove the OH groups by thermally treating at 150-1000°C and carrying out the polymerization in the presence of a solid, activated, particulate silica support (abstract and page 12, paragraph 2).

New claims 52-61 are rejected as being disclosed in the reference.

Response to Arguments

Applicants argue that the reference relied upon by the examiner use an electron donor, which is a Lewis base because it has lone pairs of electrons that it can donate, and that since titanium is a Lewis acid that the titanium catalyst will be poisoned by any Lewis base, which are compounds with oxygen, as defined by the applicants. This however, is found not persuasive because applicants composition uses silica for a support, which clearly also has oxygen atoms that would act as a Lewis base and poison applicants Lewis acid catalyst, in the same way that Lewis bases would poison that catalyst of the references, based on this line of reasoning either applicants

argument is flatly incorrect or applicants catalyst will not work because it too is poisoned.

Applicants argue that no electron donor is used in their invention. This is found not persuasive because based on applicant's own admission Lewis bases are electron donors and since silica is a Lewis base it is also an electron donor.

Applicants argue that an aluminum alkyl since it is a Lewis acid it can remove electron donors from Ti and MG site. This is not persuasive because: 1.) Applicants have shown no evidence that aluminum alkyls are stronger donors than Ti or Mg and can actually remove these groups from Ti and MG sites 2.) If aluminum alkyl are such powerful Lewis acids as applicants suggest, then the aluminum alkyls would be bound to all the free oxygen sites of the support, and not be available to remove these electron donating groups as applicants suggest, and applicants have provided no evidence to the contrary.

Applicants argue that since they use a lower amount of titanium they have better comonomer insertion. This is not persuasive because if having lower amounts of active titanium gives better results, then this would be expected to happen in a catalyst that has more titanium, but roughly the same number of active sites due to this supposed "poisoning" caused by the electron donor applicants talk of.

Applicants argue that in their invention aluminum alkyl can be used to remove any remaining electron donors from the Ti and Mg sites, however, if applicants desire to have aluminum alkyl as a co-catalyst, then there is the problem that no aluminum alkyl is left over to act as a co-catalyst once it is all bound up by Lewis bases, and applicant

show no teaching to add enough aluminum alkyl to sequester the electron donor then add extra to act as a co-catalyst, and even if there was based on the logic from applicants own arguments there would still be no aluminum alkyl to act as a co-catalyst since it will be bound to the silica, which is a Lewis base.

Applicants submit evidence in an attempt to show unexpected result, however, these results are not fully commensurate with the scope of the claims or the references. Furthermore, the properties that applicants try to use to show unexpected results are not limitations from the claims.

Examiner notes that many of the amended claims have the limitation substantially free of polar solvent. Examiner would like to point out here that the reference of Luciani clearly teaches the removal of the ester solvent, which, would read on the instant claims.

Applicants argue against examiners earlier position that the instant claims only recited relative amounts, and have therefore, added the specific amounts. However, examiner would like to point applicants attention to page 2 of Luciani I in lines 25-28 it is taught that 50-90 wt % is silica and 10-50 wt % is made up of Ti, Mg, Cl, and alkoxy groups, then in lines 29-32 Luciani teaches that the Ti/Mg molar ratio can vary from 0.2-1 to 5-1, which if calculated reads directly on the instant claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James E. McDonough whose telephone number is (571)272-6398. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JEM 7/30/2007

J. A. LORENGO
SUPERVISORY PATENT EXAMINER